

IN THE SPECIFICATION:

On page 1, before the first paragraph of the application, please insert the following:

--This is a continuation of prior U.S. Application Serial No. 09/800,260, filed March 6, 2001.--

[0008] These objects, as well as other that will become apparent upon reference to the following detailed description and accompanying drawings, are achieved by an engineered carbonaceous material (ECM) comprising a mixture of synthetic graphite and one or more other graphite, such as natural flake graphite, natural vein graphite, and/or amorphous graphite. The objects are also achieved by an ECM comprising a mixture of expanded graphite and one or more other graphite materials, such as natural flake graphite, natural vein graphite, amorphous graphite and/or synthetic graphite, in which the carbonaceous material has a purity of between 90.0 and 99.9 C (based on LOI). The ECM is preferably mixed with 0.01 to 20.0 wt% MnO₂ to create a battery active material. The mixtures may be made by either co-blending or co-grinding the graphites together. The mixtures may contain between 0.1 and 99.9 wt% expanded graphite and may be further combined with from between and including 92.0 and 95.2 wt% MnO₂. An electrochemical cell incorporating the material is also contemplated.

[0027] (b) A product of simultaneous grinding in the same mill ("co-grinding") of a precursor material to make 5535APH (40 wt%) and a precursor material to make 2935APH (60 wt%). The milling has been accomplished in a flat-configured production size jet mill by the means of feeding of a blend of two corresponding precursor materials of the controlled ratio. (5535APH is a purified (synthetic) graphite that has been hot air pancake milled down in size to

have a d90 of less than 20 microns. In general, the distribution is 90% less than 20 microns, 50% less than 8.5 microns, and 10% less than 3.5 microns.)

[0037]

**Table 1 – Electrical Resistivity for
ECM Graphite vs. Baseline**

Resistivity/ Composition of Carbon Additive	Baseline Synthetic KS-44 Timcal	Synthetic 5535APH, Superior Graphite Co.	Natural 2935APH Superior Graphite Co.	Blend: 60wt% 2935APH+ 40wt% 5535APH	Co-grind: 60wt% 2935APH+ 40wt% 5535APH	Blend: 50wt% 2935 APH+ 50wt% 5535APH	Co-grind: 50wt% 2935APH+ 50wt% 5535APH
Total amount of conductive additive in the EMD disc – 7 wt% (EMD/C ratio: 13.3:1)							
Resistivity, Ohm-inch	29.1	8.44 <u>16.9</u>	16.9 <u>8.44</u>	4.91	1.51	4.07	1.48
Resistivity, Ohm-cm	0.12	3.3×10^{-2} <u>6.6×10^{-2}</u>	6.6×10^{-2} <u>3.3×10^{-2}</u>	1.9×10^{-2}	5.9×10^{-3}	1.6×10^{-2}	5.8×10^{-3}
Total amount of conductive additive in the EMD disc – 8wt% (EMD/C ratio: 11.5:1)							
Resistivity, Ohm-inch	1.84	4.15 <u>7.92</u>	7.92 <u>4.15</u>	1.6	0.84	1.96	1.46
Resistivity, Ohm-cm	7.2×10^{-3}	4.6×10^{-2} <u>3.1×10^{-2}</u>	3.1×10^{-2} <u>1.6×10^{-2}</u>	6.4×10^{-3}	3.3×10^{-3}	7.7×10^{-3}	5.7×10^{-3}